

### **Amendments to the Specification:**

Please replace the Abstract with the following amended Abstract:

A coating liquid comprising a polysilazane and a calcium compound is applied to a base material formed from a metal or a ceramic, and the coating liquid is then heated to form a film with apatite forming ability and complete the preparation of a biomaterial. Furthermore, by immersing this biomaterial comprising the film with apatite forming ability in ~~an artificial~~ a simulated body fluid, an apatite layer can be formed on top of the film.

Please replace paragraph [0010] with the following amended paragraph:

[0010] Furthermore, a third method involves injecting calcium ions into the surface of a titanium base material, and then immersing the base material in ~~an artificial~~ a simulated body fluid. In addition, a fourth method involves treating a base material of titanium with a high concentration aqueous alkali solution, conducting subsequent heat treatment at 600 °C, and then immersing the base material in ~~an artificial~~ a simulated body fluid.

Please replace paragraph [0021] with the following amended paragraph:

[0021] (7) A biomaterial comprising a base material, a film with apatite forming ability provided on top of the base material, and an apatite layer formed on top of the film, wherein the film is produced by applying a coating liquid according to any one of aspect (1) through aspect (4) to the base material, and the apatite layer is formed by contacting the film with ~~an artificial~~ a simulated body fluid.

Please replace paragraph [0054] with the following amended paragraph:

[0054] The formation of the layer 3 of apatite on top of the film 2 with apatite forming ability is achieved by firstly preparing a biomaterial of the configuration of the first example, and then bringing this biomaterial into contact with ~~an artificial~~ a simulated body fluid, by immersion in

the body fluid, for example. The ~~artificial~~ simulated body fluid comprises the same inorganic ions as human body fluids, and the concentration of those inorganic ions are also substantially equal with those of human body fluids. Specific examples of suitable ~~artificial~~ simulated body fluids include the inorganic ion compositions used in the examples described below.

Please replace paragraph [0055] with the following amended paragraph:

[0055] The conditions under which the biomaterial contacts the ~~artificial~~ simulated body fluid include a temperature of 35 to 38 °C, and a contact period of 1 hour to 30 days, and contact with the ~~artificial~~ simulated body fluid is preferably continued until essentially the entire surface of the film 2 is completely covered with apatite. Formation of the layer 3 of apatite on the surface of the film 2 can be continued until the presence of the layer can be confirmed visually.

Please replace paragraph [0061] with the following amended paragraph:

[0061] This test specimen was immersed in 50 ml of ~~an artificial~~ a simulated body fluid of the composition shown below, and allowed to stand for 10 days in a constant temperature bath maintained at 36.5 °C to test for the formation of an apatite layer on the surface film of the test specimen.

Please replace paragraph [0062] with the following amended paragraph:

[0062] Following completion of the immersion process, the test specimen was removed from the ~~artificial~~ simulated body fluid, washed with distilled water, and dried at room temperature. The flow coating method described above is a method in which rather than applying the entire solution to the base material, only an appropriate quantity is applied to the surface of the base material.

Please replace paragraph [0066] with the following amended paragraph:

[0066] <Preparation of the ~~Artificial~~ Simulated Body Fluid>

Please replace paragraph [0067] with the following amended paragraph:

[0067] ~~An artificial~~ A simulated body fluid with inorganic ion concentrations substantially equal to those of human body fluids ( $\text{Na}^+$ : 142.0 mM,  $\text{K}^+$ : 5.0 mM,  $\text{Mg}^{2+}$ : 1.5 mM,  $\text{Ca}^{2+}$ : 2.5 mM,  $\text{Cl}^-$ : 147.8 mM,  $\text{HCO}_3^-$ : 4.2 mM,  $\text{HPO}_4^{2-}$ : 1.0 mM,  $\text{SO}_4^{2-}$ : 0.5 mM) was prepared in the following manner.

Please replace paragraph [0070] with the following amended paragraph:

[0070] The level of apatite deposition on the surface of the test specimens following immersion in the ~~artificial~~ simulated body fluid was evaluated by visual inspection, and recorded using the following scale.